

Title (en)  
Pen-type code reader.

Title (de)  
Lesestiftkodeabtaster.

Title (fr)  
Lecteur de code du type crayon optique.

Publication  
**EP 0170445 A2 19860205 (EN)**

Application  
**EP 85304882 A 19850709**

Priority  
JP 10984884 U 19840720

Abstract (en)  
A pen-type bar code reader uses a reflector formed on a concave lens surface of a convex lens system with respect to a bar code detector, except a region for transmitting a light flux. The convex lens system is mounted so that its optical axis is angled with respect to the light flux from the detector, and a bar code illuminating light source is provided in a position between the detector and the convex lens system and opposite to the light flux from the detector with respect to the optical axis of the convex lens system.

IPC 1-7  
**G06K 7/10**

IPC 8 full level  
**G02B 7/00** (2006.01); **G06K 7/10** (2006.01)

CPC (source: EP US)  
**G06K 7/10762** (2013.01 - EP US)

Cited by  
EP0703543A1; CN109284648A; EP0339649A3

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**EP 0170445 A2 19860205; EP 0170445 A3 19880803; JP S6125660 U 19860215; JP S647397 Y2 19890228; US 4682016 A 19870721**

DOCDB simple family (application)  
**EP 85304882 A 19850709; JP 10984884 U 19840720; US 75319785 A 19850709**